CLAIMS

1. A method of cone beam CT scanning in which respiration correlation techniques are applied to the acquired two-dimensional projection images.

2. A method of cone beam CT scanning according to claim 1 in which the phase of the patient's breathing is monitored continuously during acquisition of projection images.

3. A method of cone beam CT scanning according to claim 2 in which projection images that have comparable breathing phases are selected from the complete data set on completion of the acquisition and are used to reconstruct the volume data.

4. A method of cone beam CT scanning according to claim 2 in which a feature in the projection image(s) is used to determine the breathing phase.

5. A method of cone beam CT scanning according to claim 4 in which the feature is the position of the patient's diaphragm.

6. A method of cone beam CT scanning according to claim 1 in which visual and/or audible prompts are provided for the patient's breathing.

7. A method of cone beam CT scanning according to claim 1 in which therapeutic radiation is delivered during the scan at times correlated with the patient's breathing cycle.

8. A cone beam CT scanner including means for acquiring information as to the patient respiration cycle and means for selection of acquired two-dimensional projection images from the set of data acquired during a scan on the basis of the respiration cycle information.

9. A cone beam CT scanner according to claim 8 adapted to monitor the phase of the patient's breathing continuously during acquisition of projection images.

10. A cone beam CT scanner according to claim 9 arranged to select projection images that have comparable breathing phases from the complete data set on completion of the acquisition and to use these to reconstruct the volume data.

11. A cone beam CT scanner according to claim 9 including means for detecting a respiration-cycle-correlated feature in the projection image(s) thereby to determine the breathing phase.

12. A cone beam CT scanner according to claim 11 in which the feature is the position of the patient's diaphragm.

13. A cone beam CT scanner according to claim 7 including means to provide visual and/or audible prompts for the patient's breathing.

14. A radiotherapy device comprising a cone beam CT scanner and a source of therapeutic radiation, in which the CT scanner applies respiration correlation techniques to the acquired two-dimensional projection images and therapeutic radiation is delivered during the scan at times correlated with the patient's breathing cycle.